

Remarks

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Thus, claim 1 has been amended to recite the amount of the polyaniline in the polyaniline-containing composition, based on the disclosure in paragraph [0015] in the present specification (as published).

The patentability of the presently claimed invention over the disclosure of the reference relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Thus, the rejection of claims 1-8 under 35 U.S.C. §103(a) as being unpatentable over La Fleur et al. (US 6,593,399) is respectfully traversed.

The polyaniline-containing composition of the present invention is different from the intrinsically conductive copolymer composition of La Fleur et al. as follows:

In La Fleur et al. an acid group-containing monomer such as (meth)acrylic acid (AA, MAA) and N-vinylpyrrolidone (NVP) are described as examples of monomers for preparing the emulsion latex (column 3, lines 25-56). However, La Fleur et al. do not disclose an emulsion latex comprising both an acid group-containing monomer and vinylpyrrolidone specifically. Using both the acid group-containing monomer and vinylpyrrolidone is not disclosed in the description of concrete combinations of monomers for preparing the emulsion latex (column 4, lines 5-13) or the Examples (column 9, line 40 - column 20, line 30) of the La Fleur et al. reference. Rather, vinylpyrrolidone is not used at all in the Examples of the reference.

Further, a composition comprising polyaniline and an emulsion polymer including the acid group-containing monomer is not described specifically in the Examples of La Fleur et al. Though Example 14 of La Fleur et al. discloses poly(methyl methacrylate (MMA) - methacrylic acid (MAA)) copolymer (column 13, Table IV), this is not a composition comprising a **polyaniline** and poly(MMA-MAA) copolymer.

The content of polyaniline in the intrinsically conductive copolymer composition is not defined in La Fleur et al. Only the amount of **aniline, which is not polymerized**, is shown in the Examples of La Fleur et al. (for instance Example 19).

As described above, the polyaniline-containing composition of the present invention is different from the intrinsically conductive copolymer composition of La Fleur et al. in the respect that the composition of the present invention comprises the emulsion polymer including vinylpyrrolidone and the acid group-containing monomer as constituent monomers and as essential components, and the content of the polyaniline in the polyaniline-containing composition is in the range of 0.02 to 10 % by mass in the composition.

Additionally, in the present invention, vinylpyrrolidone is used to achieve a uniform dispersion of the polyaniline in a water-containing composition (paragraph [0019]). Comparative Example 2 of the present application clearly shows that the polyaniline is unevenly dispersed in the composition when aniline is polymerized in an emulsion composition without vinylpyrrolidone (paragraphs [0047], [0048], [0056]).

On the other hand, examples using vinylpyrrolidone as a monomer for preparing the emulsion latex are not shown at all in the Examples of La Fleur et al. (column 9, line 40 - column 20, line 30). Alternatively, in order to improve the emulsion state, PVOH (a poly (vinyl alcohol-covinyl acetate = 88/12) copolymer) is added when aniline is polymerized in La Fleur et al. (column 6, lines 46-60, Examples 15-38). La Fleur et al. do not even suggest the technical idea of using vinylpyrrolidone as a monomer of the emulsion polymer for uniform dispersion of polyaniline at all.

In addition, La Fleur et al. is practically equivalent to Comparative Example 2 of the present application in the respects that vinylpyrrolidone is not used and the intrinsically conductive copolymer composition is obtained by polymerizing aniline in the mixture containing the emulsion latex. Superiority of the present invention over Comparative Example 2 is already explained in the present application.

Further, in the present invention, the acid group-containing monomer functions as a dopant for giving the polyaniline conductivity as it is doped (paragraph [0020]). Preferably the amount of acid group-containing monomer is 0.1 to 40% by mass (claims 3 and 5), since a lower amount of the acid group-containing monomer leads to decrease in the efficiency of doping polyaniline and thus lowers the conductivity of the coated film obtained from the polyaniline-containing composition (paragraph [0021]). Comparative Example 1 of the present application clearly shows that the polyaniline-containing

composition without the acid group-containing monomer is almost non-conductive (paragraph [0045], [0046], [0056]).

On the other hand, a composition comprising polyaniline and an emulsion polymer including the acid group-containing monomer is not used in the Examples of La Fleur et al. (column 9, line 40 - column 20, line 30). Alternatively, HCl is externally-added as a dopant (column 8, line 66 - column 9, line 8, Examples 15-38). La Fleur et al. do not even suggest the technical idea of using the acid group-containing monomer as a dopant.

The present invention defines the content of polyaniline in the polyaniline-containing composition for enhancing the conductivity, strength and flexibility of the coated film obtained from the polyaniline-containing composition (paragraph [0015]).

On the other hand, La Fleur et al. do not define the content of polyaniline in the intrinsically conductive copolymer composition at all, and do not even suggest the technical idea of defining the content of polyaniline in the composition.

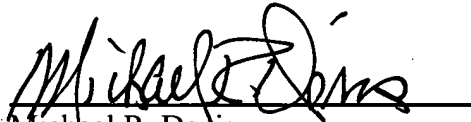
For these reasons, Applicants take the position that the Examiner has failed to establish a presumption of obviousness of the presently claimed invention based on the La Fleur et al. reference. Furthermore, considering the comparison between Comparative Example 2 in the present application with the present invention as discussed above, it is Applicant's position that even if a presumption of obviousness has been established, it is overcome by the showing of unexpected superior results.

Therefore, in view of the foregoing amendments and remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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